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APHIDIUS GRANARIAPHIS, N. SP.

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Black above, yellowish brown beneath. The antennæ are black, the front, mouth parts and legs yellowish brown. Rarely the femora and tarsi are dusky, and the ventral surface quite dark. Very rarely the dorsal surface is brownish, except the pedicel and tip. The occiput or collar is brown. The antennæ are sixteen jointed in the female, and seventeen in the male, and are cylindrical, recurved, and thickly set with short, light colored hairs. The first two joints are shorter and larger than the others ; the succeeding joints are cylindrical, close together, and equal in length, except the last, which is longer and conical. The abdomen is lanceolate, and all the segments are freely moveable on each other, so it can be easily bent under the thorax. The venation of the wings—see figure—is simple, and the first discoidal cell incomplete. We know from the simple venation of the wings that this is a Braconid. It belongs to the genus *Aphidius*, as the first discoidal cell is incomplete, the abdomen lanceolate, the antennæ sixteen or seventeen-jointed, and the ventral valves in the female simple. It is $2\frac{1}{2}$ mm. (1-10 in.) long.

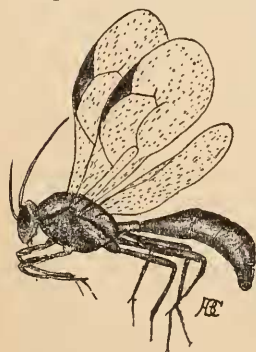


Fig. 3.

This species differs from *Aphidius avenaphis* Fitch, as that species has nineteen or twenty joints to the antennæ, is honey yellow where this is brown, and the first two joints of the antennæ, the pedicel of the abdomen, and a spot on the suture between the first and second joints of the abdomen are honey yellow and not black as in *Granariaphis*. The joints of the antennæ are also less pedicelated, or closer together than in the *Avenaphis*.

This species is interesting from the fact that it was the principal agent in exterminating the countless millions of grain Aphides last season—1889—in Michigan and adjacent States. While *Aphidius avenaphis* and other enemies, like *Syrphus* flies, *Coccinelids* and *Chrysopa* fly larvæ were

numerous and very active. Yet, by far the greater part of the louse destruction here was accomplished by this new species—*Aphidius gran-*



Fig. 4.

ariaphis. June 30th.—The heads of wheat were thronged with healthy vigorous lice, with but few of the light colored rounded parasitized lice—see figures. Ten days later the lice were nearly gone, and the parasitized ones were largely in the majority. Rapidly as the lice increase, they seem to be



Fig. 5.

no match in this respect for the parasites.

I think the grain lice *Aphis* (*Siphonaphora*) *avenae* destroyed at least one-third of the wheat crop of Michigan last year, and greatly injured the balance of the crop. Had it not been for these parasites we should have had, I think, no crop at all.

THE BUTTERFLIES OF LAGGAN, N. W. T.; ACCOUNT OF CERTAIN SPECIES INHABITING THE ROCKY MOUNTAINS IN LATITUDE 51° 25'.

BY THOMAS E. BEAN, LAGGAN, ALBERTA.

(Continued from page 99.)

DEFINITE MARKS OF THE ♀.—Observation of 62 caught specimens enables me to supplement, in some degree, Mr. Strecker's description. The smallest measures 46 mm., equal to 1.8 inch. The largest is 58.5 mm., or 2.3 inches. The average expanse of the 62 is 52.5 mm., or 2.07 inches. The cell spot above primary is larger than in the males, and has never that semi-obsolete appearance which it presents in some of the males; it varies from a small but definite spot of .5 mm. in diameter to a spot of 1.5 mm., is usually sub-rotund, sometimes sub-linear, and is frequently centered with yellow in moderate degree. On under side hind wing the dark nucleus or "patch" of costa is lacking in all, and the sub-marginal series of dark spots beneath both wings is found to be plainly presented only in three specimens, with slight traces in fifteen others. *Elis* ♀ varies greatly as to condition of border above primary; a few of my specimens have a completed dark border, much as in an average *Hecla*, with the yellow spots small and entirely enclosed. These, however, are extreme instances. At the opposite extreme are specimens